**2D Inverse Functions**

1. Find the inverse of the function:

$$f\left(x\right)=\frac{3}{x-1}, \left\{x\in R, x\ne 1\right\}$$

1. The function:

 $f\left(x\right)=\sqrt{x-2},  x\in R,  x\geq 2$

1. State the range of $f(x)$
2. Find the function $f^{-1}(x)$ and state its domain and range
3. Sketch $y=f(x)$ and $y=f^{-1}(x)$ and the line $y=x$
4. The function $f(x)$ is defined by:

$$f\left(x\right)=x^{2}-3, x\in R, x\geq 0.$$

1. Find $f^{-1}(x)$
2. Sketch $y=f^{-1}(x)$ and state its domain
3. Solve the equation $f\left(x\right)=f^{-1}(x)$